

CLAIMS

1. A process for producing a Schottky junction type semiconductor device, comprising forming a Schottky electrode
5 on a surface of a silicon carbide epitaxial layer, wherein a Schottky electrode made of molybdenum, tungsten, or an alloy thereof is formed on the surface of the silicon carbide epitaxial layer and is subjected to heat treatment so as to induce an alloying reaction at an interface of the silicon
10 carbide epitaxial layer and the Schottky electrode, thereby forming an alloy layer at the interface, whereby the height of a Schottky barrier is controlled while maintaining an n-factor at a nearly constant low value.
- 15 2. A process for producing a Schottky junction type semiconductor device as defined in claim 1, wherein a heat treatment temperature is in the range of 300 to 1200°C.
3. A process for producing a Schottky junction type
20 semiconductor device as defined in claim 2, wherein the height of a Schottky barrier is controlled in the range of 1.0 to 1.3 eV while maintaining an n-factor at 1.05 or a lower value.